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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,522	07/24/2003	Apisak Ittipiboon	102-3 US	8149
24949	7590	12/02/2004	EXAMINER	
TEITELBAUM & MACLEAN 1187 BANK STREET, SUITE 201 OTTAWA, ON K1S 3X7 CANADA			ALEMU, EPHREM	
			ART UNIT	PAPER NUMBER
			2821	

DATE MAILED: 12/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

44

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/625,522	ITTIPIBOON ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Ephrem Alemu	2821	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 7-23-04.
2. ☒ The allowed claim(s) is/are 1-9.
3. ☒ The drawings filed on 24 July 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

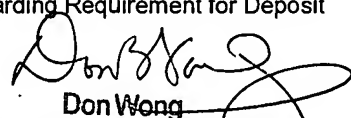
\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |  |
|--|--|
| <ol style="list-style-type: none"> <li>1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br/>Paper No./Mail Date <u>7-24-03</u></li> <li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br/>of Biological Material</li> </ol> | <ol style="list-style-type: none"> <li>5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</li> <li>6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date <u>7-24-03</u>.</li> <li>7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment</li> <li>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>9. <input type="checkbox"/> Other _____</li> </ol> |
|--|--|

  
 Don Wong  
 Supervisory Patent Examiner  
 Technology Center 2800

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Neil Teitelbaum on 11-24-04.

The application has been amended as follows:

In the specification:

page 3, paragraph labeled [9], after "an ultra-wide range of frequencies." insert --  
The DRA is capable of operating in a  $TM_{0N8}$  mode, where N is an integer greater than or equal to 1--.

In the claims:

In claim 4, line 4, replace "DRA" with --dielectric resonator antenna (DRA)--;

line 5, replace "an bandwidth" with --a bandwidth--;

line 7, replace "a effective" with --an effective--; and

line 10, after "dielectric resonator" insert --antenna--.

In claim 9, line 5, replace "resonating the" with --resonating in a--.

The changes has been made to provide proper antecedent basis in the specification for the claimed subject matter in claim 5, and to correct minor informalities in claims 4 and 9.

### *Allowable Subject Matter*

2. Claims 1-9 are allowed.

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3. The following is an examiner's statement of reasons for allowance: The prior art of record fail to teach or suggest, alone or in combination, the limitations: "a monopole antenna extending from the ground plane and having an effective length  $L$  of one quarter or one half wavelength,  $\lambda_1/4$  or  $\lambda_1/2$  respectively, at the lowest frequency  $f_1$ ; and a dielectric resonator antenna (DRA) surrounding the monopole antenna for resonating at substantially between or at two and three times the lowest frequency  $f_1$ , the DRA having a height  $H$  less than  $3/4L$ , the DRA being disposed in such a manner as being above the ground plane and either contacting or spaced therefrom by a gap  $G$ , wherein  $0 \leq G \leq 0.2H$ " as claimed in claim 1; "a monopole antenna having a bandwidth  $B_m$  surrounded by the DRA, for feeding the DRA and for radiating energy, the monopole antenna extending beyond the DRA at an upper end, wherein the monopole antenna extends vertically above the ground plane and has an effective length  $L$  of one quarter wavelength at the lowest frequency  $f_1$ , wherein the DRA is for resonating at a frequency  $f_{DRA}$ , wherein  $2 f_1 \leq f_{DRA} \leq 3 f_1$ , wherein the dielectric resonator antenna is of a height  $H$ , where  $H \leq 1/2L$ , and wherein the DRA being disposed in such a manner as being above the ground plane and either contacting or spaced therefrom by a gap  $G$ , wherein  $0 \leq G \leq 0.2H$ " as claimed in claim 4; and "a dielectric resonator antenna (DRA) surrounding the monopole antenna for resonating in a  $TM_{01\delta}$  mode at approximately three times the lowest frequency  $f_1$ , the DRA having a height  $H$  between  $0.3L$  and  $0.5L$ , having a relative dielectric constant  $E_r$  of approximately 10, the DRA being disposed in such a manner as being above the ground plane and either contacting or spaced therefrom by a gap  $G$ , wherein  $G$  is less than or equal to  $0.2H$ " as claimed in claim 9. It is for these reasons in combination with all the other limitations in the independent claims 1, 4 and 9, that claims 1-9 are allowable over the prior art of record.

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Claims 2-3, 5, 6, 7 and 8 are allowed as being directly or indirectly dependent upon allowed independent claims 1 and 4.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lim (US 6,700,539); Adachi et al. (US 6,531,991); and Kingsley et al. (US 6,452,565); also teaches similar inventive subject matter. However the prior art listed above neither teach nor disclose the limitation described above for reason of allowance either alone or in combination.

### ***Correspondence***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ephrem Alemu whose telephone number is (571) 272-1818. The examiner can normally be reached on M-F Flex hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don K Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EA  
11-24-04

  
Don Wong  
Supervisory Patent Examiner  
Technology Center 2800